

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 1-23 without prejudice or disclaimer of the subject matter recited therein and ADD claims 24-38 in accordance with the following:

1-23 (CANCELLED)

24. (NEW) A digital broadcasting system comprising:

a digital broadcasting transmitter encoding a data stream including stuff bytes at a certain location, modulating, RC-converting and transmitting the encoded data stream having known data; and

a digital broadcasting receiver receiving the encoded data stream, demodulating the encoded data stream into a baseband signal, and equalizing the demodulated signal using the detected known data.

25. (NEW) The digital broadcasting system of claim 24, wherein the digital broadcasting transmitter includes:

a randomizer receiving and randomizing the data stream including stuff bytes at the certain location;

a sequence provider generating the known data having a particular sequence to replace the stuff bytes;

a stuff byte replacer inserting the known data at the location of the randomized data stream where the stuff bytes are inserted;

an encoder encoding the data stream output from the stuff byte replacer for error-correction; and

a transmission part modulating, RF-converting and transmitting the encoded data stream.

26. (NEW) The digital broadcasting system of claim 25, wherein the encoder includes:

an RS encoder adding a parity of certain bytes to correct errors generated by channels;

an interleaver interleaving the data added with the parity in a certain pattern; and
a trellis encoder trellis-encoding the interleaved data.

27. (NEW) The digital broadcasting system of claim 26, wherein the trellis encoder includes a memory element for trellis encoding operation and initializes the memory element from the location inserted with the known data for trellis-encoding.

28. (NEW) The digital broadcasting system of claim 27, further including a packet buffer for receiving and temporarily storing the data stream from the RS encoder.

29. (NEW) The digital broadcasting system of claim 28, wherein the packet buffer receives the data altered according to the initialization of the memory element from the trellis encoder and updates the stored data.

30. (NEW) The digital broadcasting system of claim 29, further including a RS re-encoder & replace parity for RS-encoding the updated data input from the packet buffer, generating the altered parity, outputting the parity to the trellis encoder and replacing the parity added by the RS encoder.

31. (NEW) The digital broadcasting system of claim 24, wherein the interleaver outputs known data inserted at the same location of a plurality of different data streams output from the RS encoder in continuous data streams.

32. (NEW) The digital broadcasting system of claim 24, wherein the transmission part modulates the data in VSB modulation.

33. (NEW) The digital broadcasting system of claim 24, wherein the digital broadcasting receiver includes:

a demodulator inserting known data of a predefined particular sequence at a location in the data stream including stuff bytes, receiving an encoded signal from the digital broadcasting transmitter and demodulating the signal into the baseband signal;

a known data detector detecting the known data from the demodulated signal; and

an equalizer equalizing the demodulated signal using the detected known data.

34. (NEW) A signal processing method of a digital broadcasting system comprising:
encoding a data stream including stuff bytes at a certain location, modulating, RC-
converting and transmitting the encoded data stream; and
receiving the encoded data stream, demodulating the encoded data stream into a
baseband signal, detecting the known data from the demodulated signal, and equalizing the
demodulated signal using the detected known data.

35. (NEW) The method of claim 34, wherein the encoding of the data stream
includes:
adding parity of certain bytes to correct errors generated by channels by RS encoding;
interleaving the data added with the parity in a certain pattern; and
trellis-encoding the interleaved data.

36. (NEW) The method of claim 35, wherein the trellis encoding initializes the
memory element at the location where the known data is inserted for a predetermined memory
element used for trellis encoding so that the trellis encoding is performed.

37. (NEW) The method of claim 36, further including:
receiving and temporarily storing the data stream generated in the RS encoding,
receiving the data altered according to the initialization of the memory element from the trellis
encoding, and performing a update.

38. (NEW) The method of claim 37, further including:
RS encoding the encoded data, generating an altered parity, returning to the trellis
encoding, replacing and adding the parity added in the RS encoding, and performing trellis
encoding.